

10/705,693

6

RECEIVED
CENTRAL FAX CENTER
SEP 06 2006

REMARKS:

Claims 1-21 are pending in this application.

Claims 1-21 stand rejected.

The claims have been amended to more clearly point out that the triarylsilyl(meth)acrylate polymer is a terpolymer.

It is believed that no new matter is added by this amendment.

Comments on the Advisory Action:

Applicant disagrees with the Examiner's contention that the added clarification of "terpolymer" instead of "polymer" presents any new issue. Applicant has never-the-less decided to file an RCE rather than an Appeal to give the Examiner more time to fully consider the claims, as it is believed that the claims represent novel and unobvious patentable matter, as determined by the EPO Examiner in the European counterpart application that has been allowed but as yet is not finally published.

Applicant's original claim 1 cited "A polymer ...-[A]-[B]- where A is one or more....and B represents the residue of two or more different ethylenically unsaturated monomers..." Thus it was clear from the original claim 1 that the polymer consists of at least 3 different monomer units, which makes the claimed polymer a terpolymer, for which a search has presumably already been completed in the original search or after the first RCE. The fact that Applicant defines a copolymer on page 5 of the Specification to include a terpolymer does not change the fact that Applicant's Original Claim 1 was clearly to a polymer containing at least 3 different monomers. Applicant's amendment of the claims to cite "terpolymer" rather than the original "polymer...having A... and two or more B" represents no difference in claim scope, but merely states the obvious.

Triarylsilyl(meth)acrylate terpolymers are not taught or suggested by the art in marine antifouling paint compositions.

Comments on the Examiner's response to Applicant's Arguments found in the Final Rejection:

A) In the Examiners 01/27/2006 office action, the Examiner states: "Applicant admits that the trisilyl(meth)acrylol compounds of Gitlitz et al are used in amounts of 9-20 mole percent." Applicant made no such statement, and the exactly the opposite is true.

6

10/705,693

7

- the Gitlitz Examples demonstrate NO organo silyl compounds used below 20 mole percent. It DOES teach away from Applicant's amended claims by ONLY exemplifying usage levels of 20 to 40 mole percent.
- the Gitlitz Examples demonstrate NO triaryl silyl acrylate or methacrylate. It DOES teach away from Applicant's amended claims by ONLY exemplifying compounds that are outside the scope of Applicant's claims.
- there is no teaching or suggestion anywhere in the Gitlitz reference to link any triarylsilyl acrylate or methacrylate with a 9-20 mole percent use level.
- Clearly the Gitlitz reference only teaches away from all limitations of Applicant's claims, and therefore one in the art would have no motivation from the Gitlitz reference to practice Applicant's Invention.

B) The Examiner concludes that the compositions of Gitlitz would inherently possess an erosion rate in seawater suitable for use as a binder. But Applicant claims an erosion rate of the terpolymer of from 2 to 15 microns per month. The anti-fouling paint composition of Gitlitz has an erosion rate in sea water of at least 2 microns per month. (Col. 8, lines 46, and 47). Gitlitz states in Column 5, lines 24-28 that "the erosion rate of the paint is dependent upon the total contributions of the functional group, the comonomer and other components, such as toxicant(s), pigment(s), retarder(s) fillers, inerts or other non-volatile components." Applicant's have found that an erosion rate limited both to a lower limit of 2 microns per month, and to an upper limit of 15 microns per month for the terpolymer produces the most desirable final composition. This is the opposite of the Examiner's contention that "it would have been obvious to one of ordinary skill in the art to produce an erodible antifouling marine paint, which includes an organosilyl acrylate copolymer therein and select specific functional groups, comonomers and other components within that paint so as to obtain an erosion rate in salt water of 2-15 microns per month." Applicant claims an erosion rate of the terpolymer of 2-15 microns in amended claim 1, not an erosion rate of a total composition in which the components must interact to achieve a particular erosion rate. The Gitlitz reference describes an erosion rate – without an upper limit (Applicant's claim an upper limit)

- based on a final composition in which many components must interact and contribute to the erosion rate. (Applicant's amended claim 1 is based solely on the polymer, without a contribution from the other components.

7

10/705,693

8

C) Applicant's invention is a selection invention. Whereas the Gitlitz reference claims a usage rate of 10-80 mole percent, and preferable 25 – 40 mole percent of any organo silyl moiety, Applicant has surprisingly discovered that the specific sub-class of tri-aryl silyl (meth)acrylate terpolymers can be used to create an effective marine anti-foulant coating, when the level of the functional triarylsilyl(meth)acryl groups is at the very low usage level of in the range of from 9 to 20 mole percent. There is no teaching or suggestion in the Gitlitz reference to combine any triarylsilyl (meth)acrylate and a low usage level of 9-20 mole percent, and a terpolymer

35 U.S.C. §103(a)

Claims 1-3, and 5-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gitlitz et al, U.S. Patent Number 4,593,055. The Gitlitz reference fails to teach or suggest every claim limitation of Applicant's claims as amended, and therefore fails to present a *prima facie* case of obviousness. Specifically, the '055 reference fails to teach or suggest that a terpolymer containing 9 to about 20 mole percent of triarylsilyl(meth)acryl groups can be used in a marine antifouling paint and have an erosion rate in seawater of from 2 to 15 microns per month. Additionally the '055 reference teaches away from Applicant's claims by exemplifying only polymers having 20 percent or more of any organosilyl groups.

The question of obviousness is whether one skilled in the art would be motivated by the Gitlitz reference to produce the claims of Applicant's patent application. The Gitlitz patent discloses:

- 1) some (non-specified) organosilyl (meth)acrylate can be used at 10-80 mole percent (Claim 7).
- 2) A triphenyl silyl acrylate can be used to make a marine paint (at some unspecified level) (Claim 3)
- 3) The erosion rate of a full paint composition (not just copolymer) should be at least 2 microns per month.

There is no link taught or suggested in the Gitlitz reference showing

- 1) at what mol% level a triaryl(meth)acrylate should/could be effective;
- 2) any relationship between hydrolysis rate of a polymer and erosion rate of the polymer;

8

10/705,693

9

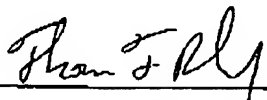
3) any relationship between the erosion rate of the paint composition of Gitlitz, and the erosion rate of the copolymer claimed by Applicant in amended claim 1;

Instead the Gitlitz reference only exemplifies non-triarylsilyl(meth)acrylates, at mol percentage levels of from 20-40 mol%, and full paint compositions that have erosion rates starting at 2 microns/month and above without an upper limit. All of the disclosure and Examples in fact teach away from Applicant's amended claims in several ways. There is no motivation to select only Applicant's claimed low mol% levels, of only arylsilyl(meth)acrylate terpolymers. One in the art would not even arrive at these from routine experimentation, since Applicant is claiming an erosion rate of the copolymer – which is not recognized as a result-effective variable by the Gitlitz reference, and therefore cannot be optimized.

There is no teaching or suggestion in the Gitlitz reference to motivate one in the art to use a mole% of a triarylsilyl (meth)acrylate below 20% to achieve an erosion rate of the terpolymer of 2 to 15 microns /month.

In view of the above, the Applicant believes that the reasons for rejection have been overcome, and the claims, as amended herein, should be allowable to the Applicant. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,



Thomas F. Roland, Esq.
Attorney for the Applicants
Reg. No. 42,110
Tel: 215-419-7314

Date: 9/6/06

Customer Number 31684

9